# *MICONIA SKEANIANA* (MELASTOMATACEAE: MICONIEAE), A NEW SPECIES FROM EASTERN CUBA

WALTER S. JUDD

*Department of Botany, 220 Bartram Hall*
*University of Florida, Gainesville, FL 32611-8526; and*
*Herbarium, 209 Rolfs Hall, Florida Museum of Natural History*
*Gainesville, FL 32611-0530, U.S.A.*

ABSTRACT

*Miconia skeaniana*, which occurs in moist montane forests, cloud forests, and thickets from ca 750–1974 m in the Sierra Maestra, is described and illustrated. It is compared with the closely related *M. alternifolia*, of the mountains of northern "Oriente," a species with which it has been consistently confused.

RESUMEN

Se describe e ilustra *Miconia skeniana* que vive en los bosques montanos húmedos, bosques de nubes y matorrales entre los 750 y 1974 m en Sierra Maestra. Se compara con la cercanamente emparentada *M. alternifolia* de las montañas del norte de "Oriente," una especie con la que ha sido confundida frecuentemente.

In the course of taxonomic study of herbarium material in connection with a monograph of the Antillean members of *Miconia* section *Chaenopleura* Benth. & Hook.f., the following undescribed species of *Miconia* was recognized. Material representing this new species previously has been identified as *M. alternifolia* (Griseb.) Alain (=*Miconia grisebachii* Triana). The new species clearly is referable to *Miconia* sect. *Chaenopleura* (see Cogniaux 1891), a distinctive, diverse, and presumably monophyletic group (at least within the Antilles) possessing an actinomorphic androecium (i.e., stamens forming a radially symmetrical pattern around style) of glabrous, white stamens of which the obovate anthers open by longitudinal slit-like pores (Judd & Beaman 1988; Judd & Skean 1991). The group is also characterized by an indumentum of usually ferrugineous, ± irregularly stellate-branched hairs, globose fruits that turn from red to pale blue at maturity, and angular-obovoid seeds with a ± smooth testa (see Judd & Skean 1991, fig. 10B). The section is especially well developed in the Greater Antilles, where many narrow endemics occur. The new species is described and compared with *M. alternifolia*, a species with which it has been consistently confused. *Miconia alternifolia* occurs in the mountains of northern "Oriente"[1] from the Sierra de Cristal eastward, while *M. skeaniana* is restricted to the Sierra Maestra.

[1]For convenience the four easternmost provinces of Cuba, i.e., Granma, Santiago de Cuba, Holguín, and Guantánamo, which were created in the post-1959 political reorganization of the island, are here referred to collectively as "Oriente," the pre-1959 name of the political unit comprising eastern Cuba.

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## **Miconia skeaniana** Judd, sp. nov. (Fig. 1)

Miconiae alternifoliae (Griseb.) Alain affinis, sed foliorum nervationibus magis valde abaxiale elevatis, i.e., venis tertiariis leviter vel manifeste elevatis, et aliquot vel omnibus venis quaternariis leviter elevatis (vs. venis tertiariis leviter elevatis vel plus minusve planis, et venis quaternariis planis), foliorum apice acuminato (vs. apice late obtuso, acuto, vel acuminato), pilis irregulariter stellatis ca 0.09–0.2 mm latis in foliorum pagina abaxiali, interdum cum pilis minutis et globulosis (vs. pilis globulo-stellatis ca 0.04–0.09 mm latis), et antherae parte fertili 1.2–1.9 mm longa, i.e., 66–77% antherae, (vs. 0.9–1.4 mm longa, i.e., 39–58% antherae).

*Shrub* to 4 m tall. *Indumentum* of multicellular, ferrugineous, minute-globular, globular-stellate, or irregularly stellate-branched, to elongate-branched hairs. *Young twigs* not ridged, ± rectangular in cross-section, 1.7–4.5 mm wide, becoming ± terete with age, the indumentum of moderate to dense, irregularly stellate-branched to elongate-branched hairs, these ± persistent; internodes 1–4.5 cm long. *Leaves* opposite, with petiole 0.7–2.9(–3.2) cm long, the indumentum similar to that of the twigs; blade ovate to elliptic, 5–11.2(–16) × 1.7–4.1(–4.4) cm, flat, coriaceous, the apex acuminate, the base acute to rounded or very slightly cordate, the margin plane to revolute, obscurely serrulate to undulate-serrate, especially distally, proximal 0–40% of margin entire, but frequently appearing entire throughout (when revolute), the largest teeth to 0.2–0.4 mm (occasionally to 0.8 mm) long; venation acrodromous, slightly suprabasal to ± basal, with prominent midvein (primary vein) and 4 secondary veins, with 2 conspicuous secondary veins placed 2–6.5 mm in from margin, 2 inconspicuous secondary veins placed closer to margin, and numerous percurrent tertiary veins oriented subperpendicular to midvein, the tertiary veins sometimes partially separated by composite inter-tertiary veins but usually connected by 1 to numerous quaternary veins, higher order veins ± orthogonal-reticulate; adaxial surface very soon glabrescent, the midvein and major secondary veins impressed, minor secondary veins, tertiary veins, and some quaternary veins slightly impressed, and higher order veins flat, the surface appearing minutely wrinkled-papillose after drying, with sparsely to densely scattered druse crystals; abaxial surface with moderate to dense, persistent, irregularly stellate-branched or globular-stellate hairs, 0.09–0.2 mm across, on lamina and smaller veins, sometimes also with minute globular hairs, intergrading with slightly larger stellate-branched to elongate-branched hairs on midvein, the midvein and major secondary veins prominently raised, tertiary veins prominently to slightly raised, minor secondary veins, some to all quaternary veins, and sometimes even a few higher order veins slightly raised. *Inflorescences* terminal, many-flowered, broadly-rounded cymes of 3 or 4 branch-pairs, 3–8 cm long, 3–8 mm across; proximal segment of lowermost inflorescence branches 1–2.9 cm long, distal internodes shorter, ultimate branches 1–6.5 mm long, with ± moderate, irregularly stellate-branched to globular-stellate or elongate-branched hairs; peduncle 1.5–5 cm long, with similar indumentum; each branch associated with early caducous,

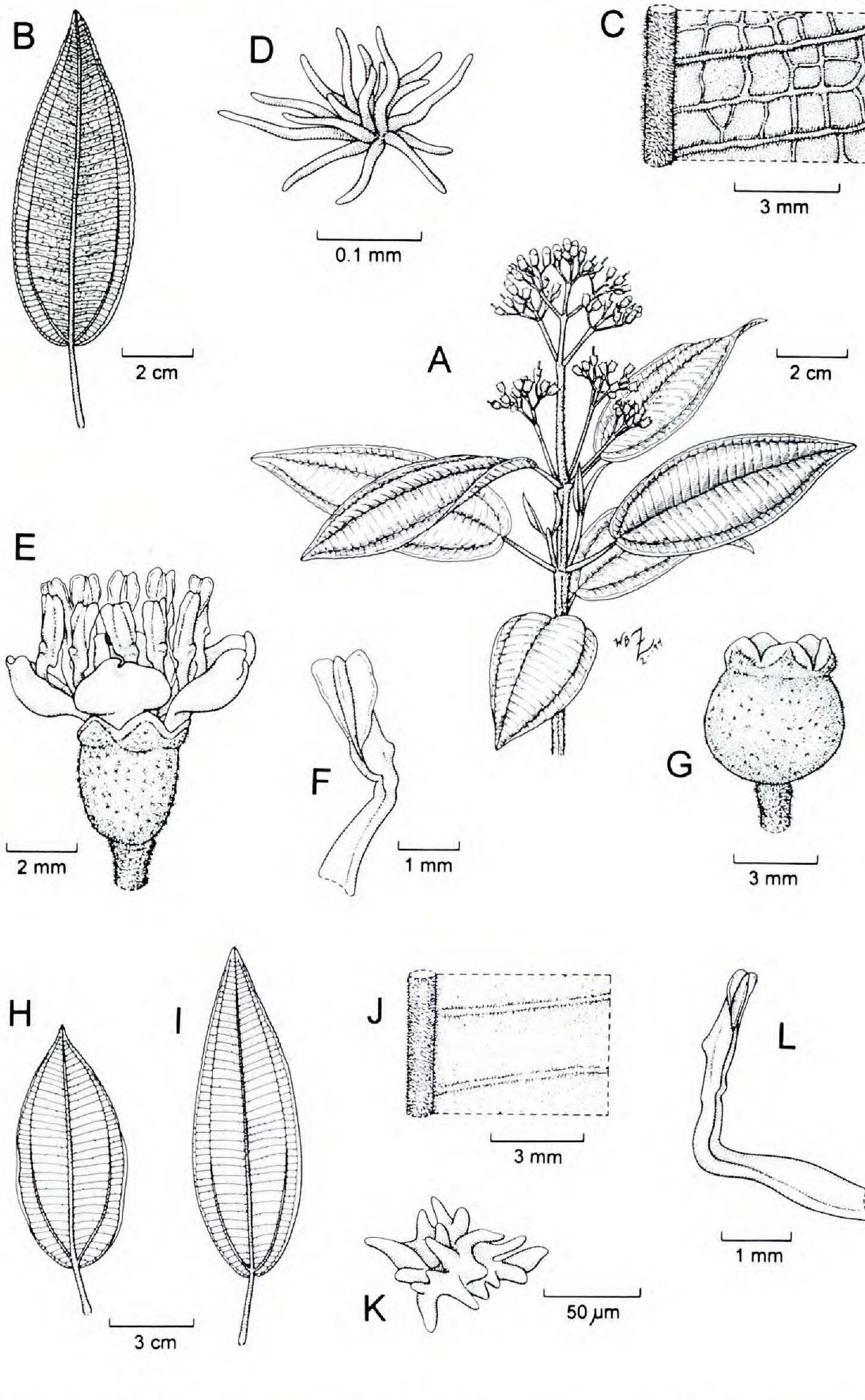


FIG. 1. Illustration of *Miconia skeaniana*, along with selected features of *M. alternifolia*. *Miconia skeaniana*: A. flowering branch (*Ekman 8855*); B. leaf, abaxial surface (*Ekman 6928*); C. detail of abaxial leaf surface (*Ekman 6928*); D. stellate hair from abaxial leaf surface (*Seifriz 1072*); E. flower (*Ekman 8855*); F. stamen (*Ekman 8855*); G. young berry (*Seifriz 1072*). *Miconia alternifolia*: H. leaf, abaxial surface (*Ekman 6833*); I. leaf, abaxial surface (*Wright 179*); J. detail of abaxial leaf surface (*Shafer 8198*); K. stellate hair from abaxial leaf surface (*Ekman 6833*); L. stamen, with elongate basal and sterile portion of the anther (*Ekman 6833*).

slightly ovate to obovate bract, ca 1.7–4 × 1–2 mm, the apex acute to rounded, the lowermost pair sometimes leaf-like; flowers in dichasia, usually distinctly separated from each other, each subtended by 2 caducous, ± ovate bracteoles, 1.5–2.2 × 0.8–1 mm, the apex acute to obtuse; pedicel 0–0.5 mm long. *Hypanthium* cylindrical, free portion 1.6–1.9 mm long, the outer surface with sparse to moderate, minute, stellate-branched hairs, the inner surface glabrous and strongly ridged, i.e., with 10 prominent ridges alternating with 10 weaker ridges, the apices of the stronger ridges projecting, 0.05–0.1 mm. *External calyx lobes* (=teeth) 5, 0.3–0.8 × 1.4–2.5 mm, broadly triangular, with acute to acuminate apex, indumentum as on hypanthium; *internal calyx lobes* 5, 0.5–1.5 × 1.4–2.5 mm, ± triangular to ovate-triangular, green, glabrous or with sparse stellate hairs, apex rounded, margin entire, sometimes minutely fringed; calyx tube 0.2–0.5 mm long. *Petals* 5, broadly ovate to obovate, 2.8–4.2 × 2.6–2.9 mm, glabrous, white to pink-tinged, imbricate and apically interlocking in bud, with apex emarginate, with an asymmetrically located notch; margin entire. *Stamens* 10, geniculate, glabrous; proximal segment (filament) 1.9–2.9 mm long; distal segment (anther and connective) 2.6–3.2 mm long, with minute dorsal projection (pointing ± toward anther apex), the anther 1.8–2.5 mm long, with fertile portion (anther sacs) 1.2–1.9 mm long, opening by 2 longitudinal slits, the connective extending 0.6–0.9 mm beyond the base of the anther. *Ovary* (2- or) 3-loculate (N=1, 10), ca 1/2-inferior (immature) to ca 2/3-inferior (mature), short-ovoid to subglobose, 2.1–3 × 2.4–3.5 mm, glabrous and strongly ridged, with fluted apical projection to ca 0.5 mm encircling the base of style; style 3.8–5 mm long, terete, glabrous; stigma truncate. *Berries* globose to subglobose, ca 4.5–7 × 5.5–7 mm, pale blue. *Seeds* angular-obovoid, ca 0.5–0.9 mm long; testa smooth.

TYPE: CUBA. PROV. SANTIAGO DE CUBA [=Oriente, p.p.]: Sierra Maestra, Cordillera de la Gran Piedra, La Gran Piedra, cloud forest, ca 1200 m alt., 10 Nov 1917, *E.L. Ekman* 8855 (HOLOTYPE: S!; ISOTYPE: NY!).

*Etymology*: It is a pleasure to name this distinctive species after Dr. James Dan Skean, Jr. (b. 1958), plant systematist at the Department of Biology, Albion College, Michigan, who has assisted the author during fieldwork conducted in connection with a taxonomic revision of the Antillean species of *Miconia* sect. *Chaenopleura*.

Additional Specimens Examined: CUBA. PROV. GRANMA [=Oriente, p.p.]: Sierra Maestra, La Bayamesa, on the ridge between Río Oro and Río Yao, 1100–1400 m, *Ekman 7215* (F); peak of Punta de Palma Mocha, south of Yara, 1400 m, *Ekman 14317* (NY). PROV. SANTIAGO DE CUBA [=Oriente, p.p.]: Sierra Maestra, summit of Pico Turquino, 1960 m, *Acuña 6760* (NY); Pico Turquino, northern slopes, ca 1750 m, *Ekman 5275* (S); ibid., *Ekman 5389* (S); between Finca Reunion and peak of Loma del Gato, 750 m, *Ekman 6928* (NY); near summit of Pico Turquino, *León 10744* (GH, NY); between the arroyos Peladero and Indio, 3000–4500 ft, *López-Figueiras 406* (US); Gran Piedra, 1250 m, *López-Figueiras 2661* (IJ, US); Pico Turquino,

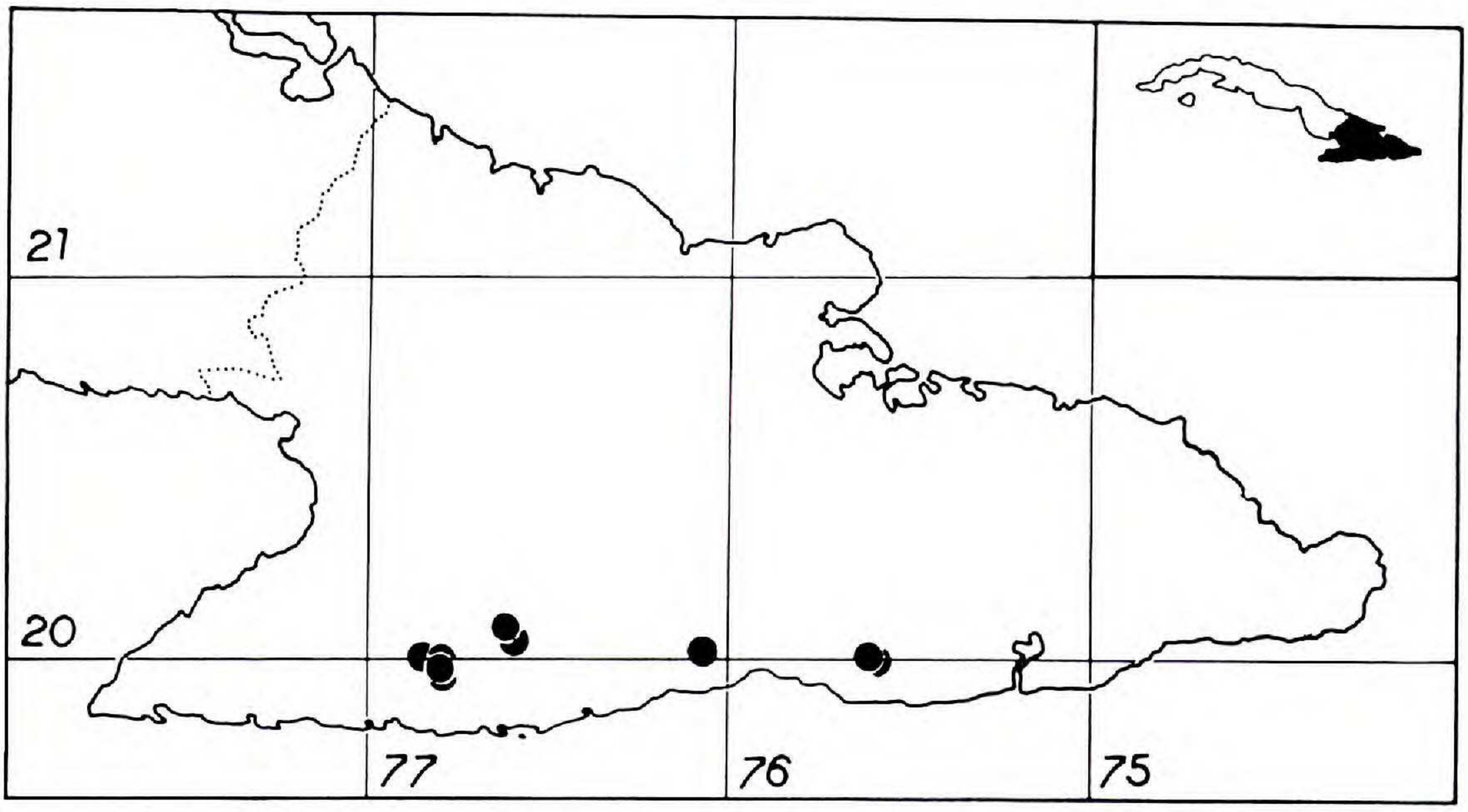


FIG. 2. Distribution of *Miconia skeaniana* in eastern Cuba.

south slopes, *Seifriz 1072* (US); Gran Piedra, ca 1500 m, *Shafer 9028* (NY); eastern Cuba, without definite locality, but probably collected at Loma del Gato, 1856–1857, *Wright 179* (GH, GOET, MO).

*Miconia skeaniana* is endemic to Cuba and known from several localities in the Sierra Maestra, both the Cordillera de Turquino and the Cordillera de la Gran Piedra, of southern "Oriente" [prov. Granma and Santiago de Cuba] (Fig. 2), where it occurs in moist montane forests, cloud forests and thickets from 750–1974 m elev. The vegetation of the higher elevations of the Sierra Maestra is summarized in León (1924, 1946), Seifriz (1943), and Borhidi (1991).

*Miconia skeaniana* is probably most closely related to *M. alternifolia*, with which it consistently has been confused. It can be readily distinguished from this species by its more strongly abaxially raised-reticulate leaf venation, i.e., midvein and major secondary veins prominently raised, *tertiary veins slightly to prominently raised*, minor secondary veins, *some to all quaternary veins, and sometimes even a few higher order veins slightly raised* (vs. midvein and major secondary veins prominently raised, minor secondary veins slightly raised, *tertiary veins slightly raised to ± flat, and higher order veins flat*). The leaves of *M. skeaniana* have consistently acuminate apices while those of *M. alternifolia* vary from broadly obtuse to acute or acuminate. *Miconia skeaniana* possesses a ferrugineous indumentum of irregularly stellate-branched to occasionally globular-stellate hairs, ca 0.09–0.2 mm across, on minor veins and lamina of the abaxial leaf surface. These hairs are sometimes intermixed with minute-globular hairs. In contrast, the hairs of *M. alternifolia* are more darkly ferrugineous, consistently globular-stellate, and smaller (i.e., 0.04–0.09 mm across). The basal and sterile portion of the anthers

of *M. skeaniana* is shorter than that in *M. alternifolia*, i.e., anther with fertile portion 1.2–1.9 mm long and occupying 66–77% of anther length in *M. skeaniana* (vs. 0.9–1.4 mm long and occupying 39–58% of anther length in *M. alternifolia*). Additionally, the tertiary veins of *M. skeaniana* are frequently more closely spaced than those of *M. alternifolia*, i.e., 5–12 (avg. 9) veins vs. 4–11 (avg. 7) per 2 cm in middle portion of leaf. The two species are completely allopatric and are, thus, geographically isolated.

The type of *Miconia alternifolia*, collected by Charles Wright (no. *179*), is actually a mixed collection composed of material collected at Monte Verde (Prov. Guantánamo) on March 2nd, 1859 (see original label on isotype at GH and label on holotype at GOET) and presumably at Loma del Gato in the Sierra Maestra (Prov. Santiago de Cuba) in 1856–1857. The exact locality of the 1856–1857 collections is not known because no original label is present; however, plants matching these specimens occur only in the Sierra Maestra and it is known that Wright did collect in the Loma del Gato area of the Sierra Maestra in 1856–1857 (Underwood 1905; Howard 1988). These collections of Charles Wright were all assigned the same number by Asa Gray (Howard, 1988). The holotype of *Miconia alternifolia* (at GOET) represents the "Monte Verde element" (collected on March 2, 1859), which is considered to be conspecific with phenetically similar collections from other localities in northern "Oriente," i.e., prov. Holguin and Guantánamo; isotypes representing this collection are found at BM, GH, NY, and S (all with printed labels giving the incorrect date of 1860–1864). Collections of *Wright 179* at GH, GOET, and M (collected in 1856–1857, probably at Loma del Gato) actually represent the taxon here considered to be *M. skeaniana*. As discussed above, this species is restricted to the Sierra Maestra. The name *M. alternifolia* is, of course, linked to the holotype specimen of *Wright 179* (which represents the northern "Oriente" taxon). Thus, the plants of the Sierra Maestra, if considered specifically distinct from *M. alternifolia*, are left without a name, and herein are described as *M. skeaniana*.

The specimens of *Wright 179* collected in 1856–1857 have sometimes been considered as a distinct variety, i.e., *M. grisebachii* var. *reticulata* Cogn., but the type of this name actually is a Puerto Rican plant of the Sierra de Luquillo (and this name is a synonym of *M. pychoneura* Urb.).

The recognition of *Miconia skeaniana* brings the number of Antillean species of *Miconia* sect. *Chaenopleura* to 43 (Judd, unpublished data). Other members of this section occurring in Cuba include: *M. alternifolia*, *M. cubensis* (Griseb.) C. Wright, *M. rufa* (Griseb.) Triana (probably conspecific with *M. plumeriaefolia* Britton & P. Wilson), and *M. subcorymbosa* Britton (probably conspecific with *M. calycina* Cogn.).

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REFERENCES

BORHIDI, A. 1991. Phytogeography and vegetation ecology of Cuba. Akadémiai Kiadó, Budapest.

COGNIAUX, A. 1981. Melastomaceae. In: A. C. de Candolle, editors. Monographiae phanerogamarum. Vol. 7. Masson, Paris.

HOWARD, R.A. 1988. Charles Wright in Cuba, 1856–1867. Chadwick-Healey, Alexandria, Virginia.

JUDD, W.S. and R.S. BEAMAN. 1988. Taxonomic studies in the Miconieae (Melastomataceae). II. Systematics of the *Miconia subcompressa* complex of Hispaniola, including the description of two new species. Brittonia 40:368–391.

JUDD, W.S. and J.D. SKEAN, JR. 1991. Taxonomic studies in the Miconieae (Melastomataceae). IV. Generic realignments among terminal-flowered taxa. Bull. Florida Mus. Nat. Hist., Biol. Sci. 36:25–84.

LEÓN, HNO. 1924. Una excursión al Pico Turquino. Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 6:127–140.

LEÓN, HNO. 1946. Flora de Cuba. Vol. 1. Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 8:1–441.

SEIFRIZ, W. 1943. The plant life of Cuba. Ecol. Monogr. 13:375–426.

UNDERWOOD, L.M. 1905. A summary of Charles Wright's exploration in Cuba. Bull. Torrey Bot. Club 32:291–300.